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Lower and Equitable Taxes Necessary to Secure Immigration.

There is much surprise expressed, and no doubt every patriotic citizen of Maryland feels mortified, at the result of the census lately taken, and the question that presents itself for the consideration of all Marylanders, is, Why is this thus? One of the leading causes that first presents itself to the ordinary mind, is our onerous, unjust and unequal tax laws. The system is wrong, and the application is worse. That Maryland possesses natural advantages, equal to any other state of the same size, cannot be gainsaid. Her mineral resources, her productive lands and fruit districts, her commercial facilities, are unequalled; her water power is immense, and almost every section blessed with the purest spring water. The climate is all that could be desired; severe or destructive droughts are never of any extent; cyclones and tornadoes are never known; then, there is the great Chesapeake Bay with its formidable oyster navy and no oysters.

But think a moment. Who would wish to migrate to a state where the small property owners pay nearly all the taxes; the millionaire taxed on hundreds and the small owner taxed on thousands; the millionaire taxed on one-hundredth of what he owns, and the other taxed on all he owns, and as much more on what he doesn't own; and more, all public officials, state, county and municipal, drawing fat war-time salaries, while all the country people, farmers, laborers, mechanics, merchants, etc., are cut down to ante-bellum incomes.

If high salaries must be paid, why not tax them as well? If banks, bankers and corporations are so prosperous as to pay ten, twenty and one hundred per cent., why not tax them in proportion? Why not lay an income tax, the most fair and equal tax that can be devised? Until some remedy is devised to relieve the weak members of the body politic from oppression while the strong sport free, there will be no rush of immigration to Maryland. Just consider, when soliciting immigrants we would be obliged in all honesty to inform them there has been no assessment in Maryland for nearly two decades; that while the wealth of the country at large has increased thousands of millions, the basis of taxation in this state has decreased many mil-

lions in that time. That farmers' homes are assessed at more than they would sell for; that every dollar's worth of stock and farm implements is taxed, while thousands of dollars of machinery and mechanics' tools are exempt. There was a time when the bloated bondholder was a great bugbear, but perhaps mortgages never bloat. Equitable and just taxation would do more to fill up our rural population than a dozen junketing bureaus of immigration.

Carroll Co., Md. HAY SEED.

Soils, Crops and Manures.

Having decided upon the suitableness of your crop to your soil, the next question is the manure to be applied, whether domestic or a fertilizer. If the latter, or even the former, do you want a quick acting one, or the contrary? Dr. Higgins, of this state, in his third report, classifies them as follows:

NITROGENIZED MANURES (forcing ones, substances containing ammonia, very quick acting manures).—Ammoniacal salts, Peruvian guano, soot; putrid animal substances, blood, flesh, wool; ammoniacal water of gas works, putrid urine; putrid liquid manure, short dung—particularly sheep and horse.

Tolerably quick acting.—Horn shavings, glue; bones, dissolved, steamed or finely powdered; oil cakes of all kinds; malt dust, fresh urine, fresh liquid manure.

Slowly acting forcing manure.—Half-inch bones, wool en rags, long dung.

Quick acting forcing manures.—Salspetre, Chili salspetre (nitrate of soda).

CARBONACEOUS MANURES (humus forming manures).—Common farm-yard dung, straw, leaves, sawdust; green manures, peat or vegetable remains of all kinds.

MANURES CONTAINING MUCH POTASH (strongly forcing manures).—Potash, nitre, malt dust, urine, wood ashes, leaves and green manures, road scrapings, compost, burnt clay, some kinds of marl.

MANURES CONTAINING PRINCIPALLY SODA (less effective manures).—Common salt, nitrate of soda, urine, several minerals, soap-boilers' refuse.

PHOSPHATIC MANURES (grain or seed-forcing manures).—Burnt bones, animal black, refuse of sugar manufacturers, phosphorite, apatite,

coprolites, Saldanna bay guano (Mexican guano), fresh bones, bone dust, all sorts of guano, animal matters of all descriptions, oil cakes, malt refuse, human excrements (poudrette), farm-yard manures, urine of carnivorous animals, wood ashes, straw, leaves, etc.

MANURING MATTERS CONTAINING SULPHURIC ACID (partly manures and partly fixers of ammonia).—Gypsum, sulphuric acid, green vitriol, coal ashes, peat ashes.

CALCAREOUS MANURES.—Burnt lime, chalk, marl, gypsum, coal and peat ashes, road scrapings, gas lime.

SILICEOUS MANURES.—Coal ashes, peat ashes, farm-yard manure, sand, straw, etc.

Another division of manures may be made:

1. Those which supply crops with materials absent in the soil necessary for their growth.

2. Those which cause the necessary materials to assume a form and condition fit to be used by the plant; those materials being present in the soil, but not in a form capable of assimilation.

3. Those which enable the soil to absorb and retain the necessary atmospheric conditions.

In the first class are comprised all kinds of guano, urine, stable and barn-yard manure, poudrette, bone dust, lime, both pure and magnesian, mineral phosphate of lime, salspetre, nitrate of potash, South American salspetre, nitrate of soda, ashes, potash, soda, common salt, gypsum, refuse of various manufactures, shell marl, green sand marl, scrapings of woods and ditches, sea grass.

Class two embraces quick or caustic lime, caustic soda, potash and carbonaceous manures, as barn-yard manure, composted manure, scrapings from woods and sea grass.

In the third class are gypsum (plaster of Paris), gas-house lime, green vitriol (sulphate of iron), coal ashes, Jersey marl, and the double silicates of Way, when they can be cheaply made.

These then are the manures that may be applied if the soil needs them. How they may be rendered available, if not so, and how the soil can be enabled to retain them for use.

All nitrogenous manures are forcing manures, but their value is in enabling the plant to lay hold of, take up, and assimilate the phos-

phoric acid and potash that may be present, and not in themselves. Perhaps it would not be far from the truth to assert that the failure of fertilizers to be profitable is to be directly traced to their absence. Nitrogen creates a want, it makes plants hungry for phosphoric acid and potash. If there is not enough in the soil, or given to it in manure, the plants starve from phosphoric acid and potash want. The heat may be enough to make the roots grow, rain enough to dissolve the phosphoric acid, for that, like potash, is generally found in combination with some other substance, and must be liberated before use, but if not present, the plant must dwarf, perhaps die. All chemical elements combine in fixed determinate proportions, as two and two, two and three, and so on. The perfect plant has these, but if it has root food, and no stalk and seed food, or if the former is in excess of the latter, then failure is the result. We feed a pig all he will eat for two months and then discontinue it, the result is a starved, ill-thriven animal.

Farmers must study soils and their wants more; fertilizer men must meet this actual want of more phosphoric acid and potash, and less nitrogen for most soils. Then there would be less failure of crops; farmers would buy more liberally, and their sales and profits would be larger. Of all substances nitrogen is the most costly and the hardest to preserve from loss; phosphoric acid next, and potash least. Farmers are now preparing for spring, and ought to study these tables thoroughly before "pitching their crop."

Action of Manures, etc.

Among the evidences of progress and enlightenment of the soil tillers of the Peninsula is the growing and extensive use of manures, both home-made and commercial, for the improvement of the soil and the successful growing of crops.

Each year the demand for commercial fertilizers is greater, and among the intelligent and industrious yeomanry, the barn-yard heap is or should be more bulky and valuable as plant food.

A more intimate acquaintance with the properties of plants and

soils, and the relations of organic matter, water and air to them, is necessary to our farmers and truckers before they can hope for the best and most profitable results, and they should make the subject an earnest study, and "read up."

The action of a fertilizer is two fold: first, mainly effective in starting the crop, giving it a good "send off," enabling the plant to send out its roots and appropriate to its use the other elements of plant food that naturally exist in the soil for the production of the crop; secondly, to supply the nutritious elements of plant food throughout its season of growth. When we consider the hundreds of little rootlets that a plant sends forth, drawing its sustenance through their hollow tubes, we see at once the importance of having the fertilizer thoroughly incorporated in the soil, so that each tiny rootlet may come in contact with some infinitesimal part of plant food held in solution, and not, as is often the case, a space a few inches square supplied with a concentrated fertilizer at the rate of several tons per acre, often injurious to the germ and tender roots, or giving it an undue "send off," while ten or twelve square feet in which the roots are soon to penetrate has no fertilizer at all; and, if the soil has not the natural fertility, the crop fails and the fertilizer is blamed.

As to the quantity of a fertilizer that can be profitably used to an acre, so much depends upon the soil, the seasons, the manner in which it is used, the crop or rotation of crops, that no uniform rule can be laid down; suffice it to say that with proper judgment *much more* can as a general thing be used than is generally the custom, and right here is where the farmers should experiment for themselves.

Phosphoric acid and potash, mineral and nitrogen organic substances, are the principal elements of plant food and are what most soils are deficient in, most soils varying in this deficiency. Different crops appropriate more of one of these elements than another; therefore experiments, if carefully and intelligently conducted, would throw much light on the economical use of fertilizers, but if not so conducted they would often lead to erroneous conclusions. Furthermore, results in one soil or locality might not hold good in another; therefore in a rotation of crops such as are generally grown, what is generally known as a high grade complete fertilizer, supplying all the elements of plant food in the most digestive form, compounded by reliable parties, whose business and reputation are at stake, are perhaps the safest in the long run. There are cases, however, as heavy clover sods or new swamp lands, rich in vegetable matter, where a highly ammoniated fertilizer is not as economical as one having less ammonia and more of the mineral elements.

Wicomico Co., Md. W. B. T.

Manuring.

Farmers, and especially truckers, are prompt to adopt their manures to the supposed or actual needs of their crops. They are not always equally careful to suit their crops to their soils, nor their manures to these. In the days when home made manures were the rule, and not the exception, this thing was better understood, or at least more carefully attended to, especially in England, than now. In a volume now before us, the following rules are given for their use:

Hog manure for fruit trees, apple, pear and the like; poultry droppings for cold soils; horse droppings for the same; sheep's for clays; cow's for hot soils, and goose for grass lands.

Our own observation and experience, running through many years, sanctions these rules as not only leading to greater yields, but also to a far more economical use. Now that many purchase the bulk of their manures in the form of fertilizers, a strict adherence to these rules become comparatively easy. Nitrogenous ones for cold soils, potash for hot ones. A.

The Grindstone.

I suppose it will be admitted that the grindstone is one of the necessary articles on the farm, though it is looked upon as a small affair, hardly worthy to be classed as part of the farm machinery, yet most of us have "axes to grind." How unpleasant it is when in a hurry to do even so small a job of grinding, to find the stone loose from the shrinkage of the wood or the rusting of the iron. Then, instead of doing the intended grinding, we have to hang the stone; a much more difficult thing, taking longer by far than the grinding itself.

A good plan is to take a piece of good heart white oak, chop it out to fit the hole in the stone neatly but loosely. Make bearings, say 16 or 18 inches apart, to rest on a double trestle. The common wooden handle may be thirteen or fourteen inches from the centre. Put the stone as far from the handle as possible, so it will be out of the way in grinding such articles as mowing machine knives. Bore a half or five-eighth inch hole as squarely as you can through the shaft on one side of the stone, then drive a round iron of the same size through the projection, three or more inches from each side of the shaft; then turn the shaft around, holding an object for the ends of the iron to pass, bending the iron until the ends run perfectly true. Then make a tapering mortice through the shaft at right angles with the iron; and, on the opposite side of the stone, make a key for this mortice. Drive it so it will project from each side of the shaft and press the stone against the iron. Turn the stone and alter the taper of the key until the stone runs perfectly true, and the job is done.

If the stone gets high on one side, knock the key out, slip the stone off, turn it around, tap the key in, and it will be all right again; if it gets loose, tighten the key and the trouble is ended.

This plan will not keep the nose from the grindstone, but it will make the situation more pleasant.

J. J. BALDWIN.

Howard Co., Md.

Farmers' Institute in Maryland.

The first of a series of farmers' meetings, to be held under the auspices jointly of the State Grange and the State Experiment Station, and at which experts are to make addresses and answer questions on topics which they have made their special study, was held in the hall of Eureka Grange, near Stott's Station, in Prince George's county, a few miles from Washington. It brought out a good attendance of farmers and their families, though the number present would doubtless have been larger had not the morning been about the coldest of the winter.

Prof. B. T. Galloway, of the U. S. Department of Agriculture, spoke on the fungous diseases of fruit and other plants, illustrating his remarks with plates, spraying machines and syringes for distributing insecticides and fungicides, many of his suggestions being of a practical kind, which were much appreciated by the audience.

Prof. T. L. Brunk, of the Maryland Agricultural College, had been given a rather broad, wide topic, "Fruit trees and vines," and his remarks were necessarily discursive. He illustrated the pruning of fruit trees, and made a great many suggestions as to the management of peaches, pears and grapes, their propagation, cultivation in the nursery, etc., with comments on the existing practices of nurserymen.

Major Henry E. Alvord, of the Experiment Station, reported the experiments in progress then with tomatoes and potatoes.

The crops of tomatoes last year ranged from $2\frac{9}{16}$ to $19\frac{8}{10}$ tons (600 bushels) per acre, the Ignotum giving the largest crop, as named, followed by Livingston's Favorite, at the rate of $19\frac{1}{4}$ tons to the acre; General McClellan and Essex, 19 tons; Livingston's Perfection, $17\frac{1}{2}$ tons; several, 15 tons, and the average being about 12 tons. Ten varieties give each over 600 bushels to the acre.

The comparisons in cultivation were made in sets of 83 lots. In an experiment where one set was transplanted in the usual way and one set potted on, so that they received no set back in putting out, the former yielded $12\frac{1}{4}$ tons and the former $10\frac{1}{4}$, or 2 tons of fruit in favor of the potted plants. In only 11 cases out of 83 did the plants treated in the usual way give as much as the same sorts which were grown from plants raised in pots.

As to fertilizers, nitrate of soda gave better crops than any other element or mixture used.

Then nitrate of soda, mixed with muriate of potash and dissolved bone black. A mixture of two fertilizing agents always did better than one alone; and phosphoric acid as supplied in dissolved bone black and nitrogen in dried blood had no effect at all. Phosphoric acid had generally little effect and potash was first increasing the crop, nitrogen coming next.

The experiments as to the best form in which to use potatoes for seed, continue to give, without exception, results favorable to large whole potatoes. These figures have already been published in print in the bulletins, and will be continued in later issues.

Mortimer Whitehead, lecturer of the National Grange, made an address, appealing to farmers to join hands for mutual protection and the advancement of their calling, and Albert I. Haywood, Agriculturist of the Station, read a paper on abortion in cows.

At a recess between the sessions, a nicely prepared lunch was served by the ladies of Eureka Grange, and when the company separated all voted them an institute, if held here next year, which would be even more largely attended.

LIVE STOCK.

Food Staffs.

The value of different articles of food is not properly understood, for they may have quite a large value as manure independent of this. The Massachusetts Experiment Station has published tables of the food and manurial value of 22 articles, that are more or less used for feeding purposes, and has placed a money value on each. These tables have great value for those who have to buy the food they use, and are of direct importance to those in villages, towns, and cities that sell their manures, as well as to the truckers and farmers that use it. We give those that are generally used here:

Food Value per ton.	Manure value per ton.
Clover hay.....	\$ 9.30
Corn meal.....	14.21
Field corn stalks....	13.00
Fodder corn (green). .	4.00
Fodder corn (dry)....	16.70
Oats (ground).....	20.80
Rye straw.....	10.00
Wheat bran.....	22.70
Wheat middlings....	23.01
Wheat straw.....	7.81
Timothy hay	12.60

If a man buys simply for food he will take the article that has the least manurial value in proportion to its feeding value, since the former represents that portion that passes through without being assimilated or turned into nutriment. Thus, clover hay and wheat straw are the dearest, and corn meal and wheat bran the cheapest.

In another point of view this may be changed, for the one cheapest

may furnish the least muscle and flesh forming substance. We give the tables for these so that each can judge for himself.

	Crude fat per ton.	Crude protein per ton.	Crude carbo-hydrates including fiber per ton.
Clover hay.....	33.00	167.00	899.65
Corn meal.....	66.00	131.60	1,309.80
Field corn stalk.....	17.00	60.00	1,076.00
Fodder corn (green).....	6.00	24.40	296.69
Fodder corn (dry).....	25.20	102.20	1,211.40
Oats (ground).....	78.00	1'6.60	986.20
Rye straw.....	8.00	15.60	998.40
Wheat bran.....	64.40	267.00	916.80
Wheat middlings.....	55.00	261.80	997.00
Wheat straw.....	8.20	13.00	767.40
Timothy hay.....	17.00	71.20	974.00

We now see that as flesh producers wheat bran, wheat middlings and ground oats, in the order named, rank first; that the much vaunted timothy hay is behind clover hay and corn meal and but little above the little prized field corn stalks. As a heat producer and energy giver it is far behind dry fodder and field corn stalks. And in this view well might Director Alvord, of the Maryland Experiment Station, call attention to their value, and tell how much is wasted by those who leave them uncut in the field, turning their stock on them that pull off the husk and sometimes the bladesheath, leaving the most valuable portion untouched on account of its hardness. In fact, the "butts" contain four or five times as much nutriment as the "tops," and when the stalk is fed whole there is a loss of from 7 to 22 lbs. of it in every 100 lbs. of stalk. Joseph Harris, the well-known author of "Talks on Manure," when corn was 60 cts. a bushel, oil cake \$35.00 per ton, bran \$15.00 per ton, and No. 2 barley 75 cents per bushel, gave the following statement of their values:

	Price per ton.	Value of Manure.	Actual cost of food.
Bran.....	\$15.00	\$14.59	\$ 0.41
Corn.....	21.50	6.65	14.85
Oil cake.....	35.00	19.73	15.28
Oats.....	25.00	7.70	17.30
Barley.....	31.63	6.82	25.34

And concludes that making no comparison as to bran there is little difference as to their nutritive values, and that corn is practically cheaper for feeding purposes than any of the three other articles, (see Agricultural Report 1870). More recent experiments have demonstrated that it is far the cheapest when hogs are allowed to follow corn fed cattle.

The case is thus put by the Wisconsin Experiment Station: 654 lbs. ensilage and 669 lbs. of corn and bran gave 100 lbs. of gain with steers and 100 lbs. of gain with hogs allowed to run with them to eat up their "droppings." Agricultural Experiment Station Digest, June, 1889.

So much for our wasteful custom, and for our ignorance. Farmers really want a cheap, effective corn-stalk cutter and splitter that could be run by hand, so as to render them available as food, for many substances only want a little work to make them digestible food. x.

Winter Diseases of Farm Stock.

The following is an abstract of the address of Dr. Robert Ward, state veterinarian, at the Farmers' Convention of Harford county, for which we are indebted to the *Agis*, a public spirited local paper, always awake to the interests of the farmers of its section:

The end of the fall season, he said, is noted for unaccountable outbursts of disease among live stock; therefore the farmer should make himself conversant with the nature and cause of these ailments, with the view of preventing them. To prevent disease stables should be cleaned thoroughly, drains cleaned, or if none exist they should be made so that the fluids and excreta may find an exit without polluting the subsoil. Farm ponds should be cleaned out and wells receive attention. Vegetable fungi and organisms become part of the linings of wells and cisterns, and diphtheria has its origin in these accumulations. Horses and young animals are especially subject to this disease.

As the fall season progresses the horse sheds his smooth, shining coat to make place for the coarser, heavy winter coat of hair. Whilst this is going on the skin is highly sensitive and the horse needs a moderately warm stable as shelter from the inclement nights. Should the cold air be permitted to act unduly the hair bulbs are chilled, the coat becomes broken and all winter long it is remarked: "How bad this horse's coat looks; he cannot be well." No medicine can obviate the result, for the hair follicles have become palsied and cannot regain their normal health and vigor until late spring or summer. Cleanliness of

body and legs is next to be considered to prevent skin eruptions. Scratches, cracked heels and grease are all the result of bad stable management.

The stable should be light and well ventilated and draughts on the animal should be avoided.

The chief fall troubles are dyspepsia, brought on by a total change in diet. A horse needs sound food of little bulk, but when the food is hard and coarse the stomach is unduly distended, and breathing is interfered with.

In the treatment of cerebro-spinal meningitis, agents should be given that will allay the nervous excitement. For vertigo, is recommended bleeding and a brisk aperient. Distemper or catarrhal fever has two forms—one of them is simple catarrhal, which runs its course in about a fortnight. In the second type an abscess forms under the lower jaw and pus forms in the adjacent tissues. As soon as these abscesses form hot fomentations, flaxseed poultices should be used. As soon as the abscess is ready to burst a deep incision must be made to allow the matter to escape, and after this the cavity must be syringed out and dressed with dis-

infecting ointments; inserting a piece of cotton smeared with the ointment into the cavity to keep it open for five or six days but not longer. Good wholesome diet is the only medicine needed.

The form of influenza known as "pink eye," wherein the lungs and bowels become implicated, is a serious trouble. The best formula for general use by the farmer during the febrile symptoms is this:

Nitrate of potash, 1½ ounces; liquor of nitrate of ammonia, 16 fluid ounces; spirits of nitric ether, 6 fluid ounces; camphor water sufficient to make a thirty-two ounce mixture. From one-sixth to one-eighth of this is a dose. Repeat every four hours until fever abates. Then give three times a day, then twice and at last leave off.

When debility is manifested the best tonic is made thus:

Port wine, one quart. Into this dissolve 2 drachms of sulphate of quinine by acidulation. Give one-sixth to one-eighth part of this three times a day. Both mixtures are to be given as drenches, by the mouth, not the nostrils.

Rheumatic troubles are very frequent with farm horses. There may be no swelling, yet acute lameness. The best remedy is to change the diet to soft feed and mashes, giving a mild dose of aloes combined with bicarbonate of potash, 4 to 5 drachms of the former to 2 drachms of the latter, and repeat the bicarbonate about three days. Hot fomentations to the parts and camphorated spirits of wine, soap liniment, equal parts, with one-eighth part of tincture of opium, used as an embrocation, will ease the patient.

Stock should not be permitted to feed on frosted provender, and to let them do so and turn them suddenly into a warm barn is too much for the animal economy. In winter damp feed should occasionally be given, and good linseed meal added to the usual feed will help to relax the bowels.

Concerning the amount of good food per day necessary to keep dairy cows, it may be estimated that a cow will do well on 3 per cent. of her live weight; working oxen on 2 or 2½ per cent., but when up for fattening the amount must be increased.

Dr. Ward closed by speaking of the importance of permitting stock to have exercise in the winter time.

The Granger and His Pigs—Concluded.

Feeling depressed by the loss of pork, and not knowing positively the origin of man, he diverted his thought to something he did know that was more than profitable. By putting the ground in fine tilth, running the rows straight, both ways, and with a shovel full of rotten barn-yard manure scattered in the checks, he was pretty sure of a crop of corn, or whatever he planted, provided he gave the ground a good stirring.

He also knows that hen manure, ashes and plaster help out the planting with good results; but, having worked on the theory that when there was a big crop and prices were low a good many would not plant the next season, and prices would be high, and finding most all working on the same theory, had changed his base and was going to plant the most when crops were high. Corn and oats are now bringing a fair price, even with a protective tariff, and some say when we have free trade there is no telling how high they will go, and he is going for a heavy crop.

What he wants to know the most now is what store manure to buy to put in the hill for corn, to finish when his barn-yard manure gives out, and what to sow with his oats to make them head-heavy. He had bought store clothes and his wife had to sew them all over, and had put fertilizers on corn and killed it. Now he wanted to know just what material to buy and put it together himself, and he hopes some practical farmer that has been there himself, will be pleased to give the desired information; also that the Experiment Station folks will step down on the turf with plain, practical facts. Having got behind hand he is going to make a bold spurt to catch up. He has found there are great many things he don't know, and some he don't want to, with only a few things he does know positively (one is he lost a \$10 bill on that greedy hog), and then there are lots of things he wants to know. One is why the runt he lets run with the sow made more bacon than one that was boarded and bedded in the latest style. JON E. CAKE.

Poultry Yard.

Pointers to Success.

Let no one be carried away by the idea that his profits in the poultry business will be in proportion to the increase of his flock, unless his conveniences in every essential particular shall keep pace with that increase.

While a flock of fifty or a hundred fowls may be made quite profitable under certain conditions, the doubling of that flock would not be advisable; for with the increase there would be too much crowding in their roosting and brooding places, and their outlets or ranges would be too much restricted.

Where very large numbers of fowls are to be kept, a specialty should be made of the business, and ample separating enclosures and quarters should be provided, so that the whole number in their various divisions may receive the same attention in every particular as the few incidentally kept on every farm. Failure to comply with these conditions has brought disappointment to many extravagant ventures in the poultry business.

WHILE fresh ground bone is an excellent material for laying hens,

care should be taken always that only wholesome bone should be fed. Much of the bone-meal fertilizer of commerce is more likely to do hurt than good, by either communicating germs of disease or imparting an objectionable taste to the eggs.

CHARCOAL is good for laying hens, but that from burned grains of corn is better than that from wood.

THE plan of buying up chickens from commission merchants to fatten is a risky one, as disease is often communicated to the whole flock in this way.

IF you are near to a tide-water stream, haul up loads of the drift deposits of grass and other vegetable matter along the shores. They contain worms, grubs, and minute shells. The fowls will be very busy picking them out, and the deposit will increase the resources of the barn yard.

A day or two before the time of hatching, dip the eggs into warm water.

THE sitters should be in an apartment quiet and exclusive of all other fowls, and should be provided with convenient feed and drink and a place for dusting.

SOME fowls are naturally more prolific than others, and this natural tendency may be made more general among a flock by observing the hens which lay every day, and then selecting those eggs for hatching.

Feeding for Eggs.

I write to say that I agree entirely with the way of caring for, and particularly the ways of feeding a flock of laying hens, as outlined in the January *Farmer*.

I have a flock of about one hundred and fifty hens—more than half of them last spring and summer's pullets. The pullets are just commencing to lay, and here is a brief statement of their work in two months.

During the month of December I gathered 648 eggs. During the month of January, 980 eggs, and it will be remembered that the weather was not favorable for eggs about New Year. My stock is a mixture of Brahmans, Black Spanish, Langhans, Dominiques, Plymouth Rocks and Dorkins, and I prefer this mixture to either variety alone.

If my layers shall keep on doing as well as at the close of January, namely: laying from fifty to sixty eggs a day, I expect the record for February to reach about fifteen hundred. More of the pullets are coming to the rescue. S. N.

PLenty of good strong food goes far toward keeping fowls in prime condition in cold weather. If they are weak and poorly fed you may depend on colds, roup and death, no matter if they roost on mahogany poles. It takes good judgment to feed to advantage. There is no denying that it is easy to overfeed Asiatics, and they naturally take to cold weather and don't need bracing up so much. If you see Brahma or Cochinchina hens buzzing around like a top she is very fat and consequently disposed to apoplexy.—*Ohio Poultry Journal*.

Horticulture.

An Apple Orchard.

There are five very important factors to be considered and made use of for satisfactory results in the growing of apples. They are: 1, choice of situation; 2, kind of soil; 3, age and condition of trees to be set; 4, manner of setting, and 5, after care.

The best situation is one gently sloping southward and sheltered from the violence of northerly winds by a range of hills or skirts of timber. To the advantage of such a situation nearly all old fruit growers will testify. In the years of earlier growth, before the trees are firmly established, they are not so apt to be swayed to and fro, loosened in the ground, and bent from an upright position, and the poet has said, "As the twig is bent the tree's inclined."

The best soil is a deep loam, such an one as corn would delight in, and to be put into fine planting condition by the plow and harrow. And now comes the selection of the trees. Go to a reliable propagator of stocks—there are plenty of them over the country, and don't make the mistake of choosing too large and too old trees, expecting by so doing that they will the sooner come into bearing. Choose smaller stocks, not older than two years, preferably one year, and have them carefully taken up with good roots. It will pay well to give particular attention to this particular in person, for a right beginning in this orchard business is an all important matter. No after care will make amends for great mistakes in the start. We would rather have the trees dug right from their growing places, than to get those which have been heeled in. It is not every tree peddler who will sell you a reliable article.

And now for the planting. Cross out the ground fifty by fifty feet, and at each intersection dig out the earth two and a half feet in width by one foot in depth. Into this hole put a liberal quantity of well-rotted barn-yard manure, covering over lightly with good earth, then plant the tree with great care, pressing down the earth firmly all about the roots. Then stake firmly, and all will be well so far; and the sooner the work is done, when the weather will admit, the better. Often tree planting is left until the buds are far advanced, and then the growth receives a check. This ought not to be. Peaches may be set at the same time in the alternate rows each way; they will be done bearing and out of the way of the advanced growth of the apples. In regard to best varieties of both apples and peaches to be selected, we have to say that in the planting of many of the old orchards in this region, great mistakes were made in the selection of varieties, many of these not being adapted to our climatic conditions.

In our next number we will give a list of the varieties which we have known to succeed well; and we invite all fruit-growers among our subscribers to favor us for publication a list of best peaches and apples, early and late, in their experience, for the benefit of those about to plant.

Grapes.

During mild days of this month it will be in order to prune grape-vines, if that work has not been done already, so that all the cutting may be done before the running of the sap or bleeding time. Everybody does not know how to do this work correctly, and it is one too important to be left to an unskilled hand. The careless trimming off of branches in a haphazard way is one thing, the careful pruning, having always regard to fitness of what ought to be lopped off and what should be retained, is another. The shoots of last year's growth are those which are to bear fruit this year, and to know which of these to leave and which to cut off is the secret. Leave those of the strongest growth and of the brightest color, but not too many of them; for if too many are left more clusters will be formed than can be well developed and matured. After pruning tie up securely to stakes or trellises. If any slips are wanted to make more vines, cut from the trimmings lengths with two good eyes or buds, and bury in sand until spring, when they may be planted in place.

FERTILIZING.—The trimming of the vines having been attended to, look now to their fertilization by applying several quarts of coarse bone dust to the roots of each one. This is an excellent substance for them to feed on. Wood ashes also are good. They can be applied together. On wash days see that the soap-suds are applied also. Many grape-vines are starved from year to year; no fertilizer is afforded them, and yet the wonder always is that their crop is so meagre. You cannot get something out of nothing. Then try the feeding policy on this most delicious and wholesome fruit.

PLANT MORE VINES.—Are there not a number of unappropriated places about your dwelling where you could plant out new vines, whose rich clusters are so grateful in the autumn days? Just a few minutes of well directed care devoted to them now and then, as we have indicated above, and behold, you have your reward!

VARIETIES.—The old Concord is the kind for the masses, though not of the highest quality, but still very good. In warm exposures set out a few Catawbas. The Hartford Prolific is early and good. The Diana is highly flavored and a good keeper. Other excellent varieties are Moore's Early, Niagara, Clinton, Poklington and Salem. If the natural soil is clayey put in a wheelbarrow load of good corn loam before planting.

Is It Time Wasted?

There are many housekeepers in the country with acres of land all around them, and loads of different kinds of fertilizers going to waste in every direction, who are continually hampered in their efforts to furnish their tables from day to day with wholesome and appetizing dishes for their families as they would like to do, just because of the neglect of the *pater familias* to make the most of those acres and fertilizers, or in other words, just because he persists from year to year in singing the old and senseless song that he has "no time to waste on a garden." Time to waste on a garden, indeed! Where does the waste come in, gentle farmer? Not certainly by helping to lighten the duties of the good wife, by saving her from so many vexatious anxieties whenever she contemplates the getting up of a good dinner for a number of hungry persons. Not certainly by the satisfaction always in store for the partakers of such a dinner. And certainly not by the great saving it makes of the many dollars which would otherwise go to the grocer or butcher.

We are among those who think that farmers' wives ought to have more conveniences and more appliances to lessen their labor.

It's all well to look after the corn crop, the potato crop and all the other field crops, but don't neglect the garden. Many little odds and ends of time which might otherwise be wasted, cannot be more profitably employed than in securing this valuable auxiliary in a farmer's economies.

Pruning.

At the farmers' meeting, at Belair, Prof. T. L. Brunk, of the Maryland Agricultural College, spoke on pruning, the following being a synopsis of his remarks:

Pruning, he said, is most important work, but it is usually done in a hap-hazard manner. Every man who owns a tree knows how to prune it—his way. He goes at it with axe, hatchet and saw, beginning at the roots and working upward. With fruit trees you begin at the top and work downward. He did not see why fruit, even peaches, could not be combined with potato growing. If you have not varieties which succeed here it is our business to find you something that will grow. In Iowa peaches from China have been introduced upon the bleak prairies and stand the coldest winters.

Prof. Brunk recommended to fruit growers two books—"Fruit Trees," by M. DuBreul, and "Horticulturist's Rule Book," published by the Garden Publishing Co., of New York.

The Professor showed some samples of nursery stock, and said that experience will demonstrate that in setting out a tree the fibrous roots

are of no account, but we want original roots of fair size. In setting out trees he showed how he would clip off the fibrous roots and the ends of the larger roots, especially those which were torn or bruised. After the tree is firmly planted in the ground he would cut the stalk down to within 15 or 18 inches from the ground, leaving about five nice living buds on the stub. The reason for this is that peaches as well as pears grow readily from cuttings and the young tree is really nothing but a cutting. The roots should be spread out when the tree is planted. Each stub throws out roots and these seem to be what the tree wants rather than the original roots.

The trees must be well cultivated. In most cases the top bud gives the most growth; if so, nip off the long branches. The main thing, with pear trees, is to get the lower branches well established. The tree should be developed into a pyramidal form, by keeping the top cut back.

He showed how to trim the second year's growth, by cutting each top branch back to a good healthy side branch and shortening the lateral twigs, so as not to leave too many bearing buds on the tree. A blossom will appear for every bud, but the tree, not having power to develop all of them, they fall off.

Apple trees should be cultivated in a vase form. The most important thing is to let the main branches come out near the roots. By this means you get more fruit, you can gather it and can spray the tree easily to destroy insects.

Nurserymen trim off the lower branches merely because customers want the trees that way. Don't order trees with large tops, and don't try to get fruit bearing trees in one year.

In the ordinary pruning of young trees, the first year, a large number of buds are left, which drain the tree and weaken it. If cut back to about five buds the efforts of the tree are concentrated and you get an enormous growth. Prune the tops off your high trees; cut off the long branches next to some thrifty branch. Then trim the smaller branches back to the fruit buds. Cut the top branches most and the lower branches least.

Fall is the best season to set out trees, but he would not prune them until spring. In setting them out in the fall, cut off part of the top, to keep them from swaying in the wind, and cut them lower in the spring. March is the best month in which to trim an old orchard. It is a mistake to trim all the small twigs naked. The best fruit is that found in the shade.

Raspberry vines should be trimmed in March. It is a mistake to stake raspberries. They should be pruned so as to stake themselves.

He advised thorough cultivation while the trees are young, feeding them nitrogen in the shape of cotton seed meal and bone and ashes when ready for fruiting.

Red June and Early Harvest apples may be set 18 by 18 feet apart, and large growing varieties 25 to 30 feet apart.

If he desired to renovate an old apple orchard he would cultivate it. Hogs are a splendid thing in an orchard.

Mr. Haviland Hull suggested that trees might be trimmed too much, and instanced long-lived trees which were never pruned.

Prof. Brunk remarked that fruit trees are an artificial product, and art must be used to produce the best results with them. Some trees are naturally longer lived than others. Using wrong root stocks is often the cause of short-lived trees. Don't buy pear trees unless on Japan stock, he added.

Prof. Brunk then showed, by means of the blackboard, several methods of pruning grape vines, and how to make cuttings.

A Hot Bed.

Every farmer should provide for a continuous succession of all kinds of culinary vegetables during the growing season; and to begin early with this succession he should have a hot bed, which any one with ordinary ingenuity can readily make. A frame six by twelve feet is large enough for the needs of almost every family, unless plants are wanted for sale, or to grow produce for markets. The frame should be tight, 2½ feet high on the north side and 18 inches on the south side, so as to give a gentle slope to the sun. Three sashes of ordinary hot-bed size will just cover this frame. New, they can be bought for about two dollars and a-half each, already glazed, and if taken care of will last for many years. Inside of this frame dig out the earth eighteen inches deep and fill with moist forest leaves, cover these with fresh unfermented horse manure, one foot deep, and tread all over the surface evenly. Over the manure spread a coat of fine rich earth to the depth of four inches, rake over smoothly, put on the sash and leave several days to heat. Cover the glass with matting, and all round the outside of the frame place straw or hay to keep out the cold. After the first heat has subsided and left a gentle warmth, sow the seeds. For cabbage sow Early Winnigstadt, Jersey Wakefield, Large Early York, and Early Flat Dutch. For lettuce, Butter Cup, Hanson, New York and Silver Ball. For tomatoes, Acme, Ignatium, Trophy and Livingston. For beets, Early Blood turnip and Early flat Bassano. For radishes, Early Scarlet, French Breakfast and Scarlet Globe. These varieties have been tested through years and are now generally grown, though seedsmen say they have many valuable novelties, which try in a small way also. Cover the seeds with an inch of fine earth; open for sun on mild days and cover with matting at night.

Provision for Fruit.

Young man, you have bought your acres, builded the house for your dwelling place, and erected a barn and other needed buildings for the convenience of your stock. This is a good beginning. The next thing in order is to make provision for all kinds of fruits. This is a provision which some beginners neglect for years, but they always have to rue their mistake. Walter Scott once gave this advice to a young man starting on a farm: "Jock, plant fruit trees as soon as you can; they will grow while you are sleeping, and you won't have to wait 'till you are an old man to get the increase." This was good advice from a practical and far-seeing man.

A farm without orchards always impresses us unfavorably. We always take it as an indication that the owner fails to properly estimate and appreciate the true meaning of living in the country. Sometimes the failure to make the provision above alluded to is the result of a want of proper foresight, or a careless habit of thinking that next year or the year or the year after will be all in time, in fine, that there is no particular hurry about it. Sometimes it comes from a disposition to grudgingly reckon the few cents each tree will cost as an unnecessary expense, with the extenuating excuse that fruit can be bought cheaper than it can be grown. Ask any provident farmer whose trees are bending with their weight of tempting red-streaks and pippins, or yellow, juicy pears, or glossy plums, or amber cherries, or whose vines are rich with clustering grapes or berries, if it be less costly to go to the market for all these delicious and wholesome luxuries than to produce them. Independent of the fact that it is not cheaper to buy than to grow them, there is the consideration that they are always at hand and ready for use when wanted without the inconvenience of going to the neighbors or to the markets for them.

And then, the great satisfaction there is in the reflection that all these good and desirable things are the result of your own wise planning and yearly care under the blessing of the Great Giver.

Some people make the excuse that they don't know that they will live long enough to enjoy the fruitage of orchards, and that some others may come in and profit by the results of their labors, which is a far more inexcusable plea than the others, for it is founded on selfishness alone. But we are glad to know that this class is becoming fewer as the world is more and more enlightened in regard to the duties which every member of society owes to his kind. Then, make timely provision for an abundance of fruits. Plant for the apple, the peach, the pear and their like, and for the berries; they are all grateful and wholesome, and may be turned to profit as well. Plant, that you and yours, and they that

shall come after them, may eat and be satisfied.

The Grange.

Maryland Granges.

MONTGOMERY COUNTY GRANGE No. 7 held its regular quarterly meeting at Brighton on 29th January. Officers were elected as follows: M., R. B. Farquhar; O., Jos. B. Ager; Lec., C. R. Hartshorne; St., W. Everett Brown; Asst. St., P. F. Brian; Chap., Luther Brashears; Tr., John T. DeSelum; Sec., Ella L. Hartshorne; G.K., A. J. Bennett; C., Carrie M. Farquhar; P., Elizabeth T. Stabler; Fl., Olive Bentz; L. A. S., Sally Brown. Luther Brashears and Jos. B. Ager were elected to serve on executive committee for three years. The executive committee made their annual report of condition of Washington Grange Agency. Asa M. Stabler, R. B. Farquhar, Catharine Janney, John O. Clark and R. H. Miller were named as a committee to confer with the executive committee and assist in getting the business on a better foundation. An interesting address was made by W. Past Lecturer of State Grange, James S. Robinson, on the necessity for intelligent and active co-operation among farmers for their own preservation.

ANNE ARUNDEL COUNTY GRANGE has elected the following officers, for the year; M., Dr. H. B. Gant; Sec., R. McKendree Davis; Tr. Edward Collinson; O., P. H. Israel; St. Wm. A. Shipley; Lec., James Cheston; Asst. St., Benjamin Collison; Ch., Rev. J. W. Steele. The lady officers are Mrs. Israel, Miss A. C. Murray, Mrs. Gant and Mrs. Best. Messrs. H. B. Gant, R. McK. Davis, A. B. Best, Rev. J. W. Steele, W. F. Owens, with P. H. Israel, ex officio, were appointed delegates to represent Anne Arundel in the State Immigration convention to be held in Baltimore February 1st.

ALL HALLOW'S GRANGE, No. 14, Anne Arundel County, has elected the following officers: M., Thos. S. Iglehart; O., E. A. Ditty; Lec., Dr. Thomas Welsh; Asst. St., Benj. Watkins; Ch., Rev. J. Barrett; Tr., P. H. Israel; Sec., Judge J. H. Sellman; G. K., Miss Sophia S. Sellman; P., Miss C. W. Watkins; F., Miss Merriam Iglehart; Ceres, Miss Ellen E. Watkins; lady assistant stewart, Miss Lucy M. Sellman.

Farmers' Meeting of Garrison Forest Grange.

Under the direction of a committee from this Grange a two-days meeting was held in a spacious hall at Pikesville, February 11 and 12, which was largely attended one day and moderately so the other. Addresses were made on the first day by Prof. Milton Whitney, of the Maryland Agricultural College, on "The Relation of the Soil to Water and the Physical Effects of Manure and Cultivation;" by Frank Brown, Esq., on "Stock Breeding and Horse Raising;" by Prof. T. L. Brunk, on "Planting and Pruning Fruit Trees." Secretary of Agriculture Rusk was unable to be present as expected.

On Thursday, Major Alvord, Director of the Experiment Station spoke on the Value of Corn Stocks and How to Utilize Them; Prof. Patterson, of the same institution on the "Adulteration of Food and their Detection;" James S. Robinson, Esq., on the "Necessity of Co-operation Among Farmers," and Hon. Wm. M. McKaig, on the "Tariff as it Affects the Farmers."

The American Farmer

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"AGRICOLAS." Virg.

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At the office of THE AMERICAN FARMER are located the offices of the following organizations, each of which its proprietor, Wm. B. Sands, is Secretary:

Maryland State Farmers' Association
Maryland Horticultural Society.
Maryland Dairymen's Association.
Maryland State Grange, P. of H.

BALTIMORE, FEBRUARY 15, 1891.

To Our Patrons.

We never could discover by what process of reasoning a farmer could come to a satisfying conclusion that he could not afford to take an agricultural paper. But on the contrary, we can very satisfactorily decide, from the best of evidences, that he cannot really afford to get along without one. It must be a very poor farm journal, indeed, the current hints and instructions of which through all the months of the year, are not worth to the tiller of the soil the pittance of one dollar. Of course, if those hints and instructions are not tested and applied by the farmer in his operations, they are of no more benefit to him than are the prescriptions of a doctor which are never administered to his patient.

We believe that there are many farmers who owe their success in their vocation to their habit of profiting by the results of the experiences of other workers in their line, as set forth and made public in the columns of good farm papers. Such men start out in the world with the resolution to succeed, and they are wise enough to not let any foolish prejudices come in the way of their taking hold of a proffered help, when they see and recognize it. Many an inventor, when in sore perplexity and discouragement at some stage in his invention, has been enabled by the merest hint from a friend, to carry it through to successful completion.

We do think that the farmer who is trying to get along in his business, without an agricultural paper to help him, by presenting to him better

methods of culture and general farm management than were practiced by his father and grandfather, is on the losing tack and must always linger in the background. He never can swim in the tide of progress.

Independent of strictly farm topics, nearly every agricultural paper contains much valuable miscellaneous reading for the family circle, and is therefore a means of promoting mental and religious improvement in every family it visits. Just ponder over the foregoing considerations, friend Jones, or Smith, or Brown, or any other subscriber to THE FARMER, who has been thinking about parting company with us, and continue on for another twelve months at least. We don't want to lose you, and we want you to add others to our goodly company of subscribers.

Give Us Your Opinions.

If any of our readers in the course of their farm experiences have hit upon and adopted any new methods of planting or cultivating, or of managing stock, which they think are worthy of adoption, we will cheerfully give them a place in the columns of THE FARMER, to make statements thereof, that others may profit by what they have sought out and satisfactorily applied. We do not believe that all that is possible to be learned about farm economies has been found out, and we think all farmers, especially the progressive ones, ought to be disposed to contribute to the general fund of information for the good of all others alike concerned. Opinions are solicited on rotation of crops, ways of plowing, soilings, gardening, and the application of home-made manures, use of plaster, lime, greensand marl, ashes, muck, and different kinds of commercial fertilizers, in what ways most beneficial and which of them most valuable. Any useful hints in regard to poultry management, care of hogs, etc., will come in as helps to somebody. Don't be exclusive. Let us hear from you, please.

Inquiries.

I have about five or six hundred pounds of fresh bones, which I wish to dissolve and prepare as a fertilizer. Can you inform me how to treat them?

E. B.

REPLY.—Put the bones into a tight wooden trough, then take one carboy of sulphuric acid, (oil of vitriol), mix the acid half and half with warm water, and pour over them; cover over with dirt, and in a few days the bones will be dissolved and will fall to pieces. Spread out to dry and mix with rich earth, or in a compost. You will have an excellent super-phosphate, and a very active fertilizer for corn or grass. The sulphuric acid must be pure 60-degree quality. Do not let the acid touch flesh or clothes, as it is very caustic, destroying everything it touches.

I have asked many persons about here why the cultivator and horse hoe are no longer used, but no one can explain the reason. The single and double shovel plows have taken their places in this section.

Fauquier Co., Va. INQUIRER.

[In reply to the above, we have to say that in neighborhoods where we are acquainted, both in Virginia and Maryland, the single and double shovel plows are going out of use, and the light, regularly running cultivators, mostly of iron frame, superseding them. Farmers whom we know are more and more coming into the way of thinking that level working in the cornfield is a better way of culture than that by the land-side or shovel plow. The newly modeled cultivator works the soil up thoroughly, and leaves it level and not so liable to washing by rains.—EDS.]

Science in Agriculture.

Every successful farmer is to some extent a scientific man. Let him throw away the knowledge of facts, and the knowledge of the principles which constitute his science, and he has lost the elements of success. Other qualifications being equal, the more advanced and complete the theory of which the farmer is master, the more successful must be his farming. The more he knows the more he can do. The more deeply, comprehensively and clearly he can think, the more economically and advantageously can he work.

Brief Bits of Advice.

SAVE all the soot from the cleaning of your stove-pipes, and keep in a dry place. It will be needed in the spring to dust the young plants, such as tomatoes, cabbage, radishes, beets and cucumbers; mixed with air-slaked lime and sprinkled with kerosene, it is very effective against these destroying pests.

HORSE manure, from its containing much potash, is better adapted for the growth of potatoes than cow manure. The potato crop requires large supplies of potash, and some form of it should be applied with the manures used for this purpose.

AN excellent thing for cows, a week or so before coming in, is about a pint of linseed, or linseed cake, in their mess. It often saves trouble.

THE importance of plenty of pure drinking water, for milk cows, cannot be over-estimated. We have seen the animals compelled to drink from the pools of the barn yard. Unquestionably such water will affect the milk and butter, and their health.

THERE is often a neglect to provide salt for cattle, which sets them to chewing old sacks, bones or harness. If a box be filled with salt, be kept convenient of access, they will help themselves when they need it, with no danger of getting too much. Some dairymen mix ashes with the salt.

If you did not save garden seeds from your last season's crops, it is none too soon to secure, from reliable seedsmen, your supplies. Planting time is hastening, and will soon be here. The catalogues abound with new varieties. One pound of seed will reach you through the mail for eight cents. See our advertising columns.

The State Immigration Convention.

Delegations have been appointed in various sections of the state from farmers and their organizations to attend the Convention called by Governor Jackson, to meet in the city of Baltimore, at 10 A. M., February 18th. The place of meeting is Mozart Hall, on the corner of Hanover and Camden streets. The Governor will open the Convention. The delegates from Maryland to the Southern Interstate Immigration Convention held at Asheville, N. C., in December last, have prepared a report, which they will submit to the meeting. They suggest that should it appear that there exists a sufficient interest in the matter and a desire to stimulate immigration to this state, such a convention should decide upon some plan for organizing an active agency to promote the cause. Guided by the experience of other states, it is believed that there should be some official recognition and aid of the enterprise by the state, and that private interests may be depended upon to supplement the work. No elaborate or expensive state machinery or official organization is believed to be necessary or expedient. In most of the Southern States the interests of agriculture and immigration are closely allied, and the assignment of these interests to one official state agency has operated well. It is believed that the most effective and economical organization that could be provided for Maryland would be a small, unpaid, non-political board of agriculture and immigration, created by law and supplied by the state with sufficient means to maintain an office and employ a suitable business agent or executive officer to advise, assist and co-operate with all other agencies in the state, organized for promoting its agricultural, commercial and manufacturing interests.

The delegation recommends that the consideration of this subject be for the present confined to its bearing upon Maryland interests and the best means to be employed for advancing the interests of this state only.

Value of Farm Animals.

The estimates of numbers and values of farm animals made at the end of each year and returnable in January to the U. S. Department of Agriculture have been consolidated. There is little change in numbers, except on the Pacific coast and on certain portions of the Rocky moun-

tain area, where the winter of 1889-90 was unusually severe, making losses especially heavy.

The number of horses on farms, as reported, is 14,056,750. Average price of all ages, \$67, a decline from last year of \$184.

The number of mules is 2,296,532, having an average value of \$77.88, a decline from last year of 37 cents.

The number of milch cows is 16,019,591, an increase of 66,708 from last year. The average value per head is \$21.62, which is less by 52 cents than last year's average.

There is a tendency to increase of dairying in the South, especially in the mountain region, offering cheap lands and abundant grasses.

Other cattle aggregate 36,875,648, including those on ranches.

The highest value is \$28.64, in Connecticut; lowest, \$8.46, in Arkansas; in Texas, \$8.89.

The estimated numbers of sheep are 43,431,136. The average value \$2.51, an increase of 24 cents, or more than 10 per cent.

All other kinds of farm animals have declined slightly in price. A tendency to increase of numbers is seen in most of the states.

The aggregate of numbers of swine is 50,625,106, showing a decline of nearly two per cent. The average value is \$4.15, a decrease of 57 cents per head. The scarcity of corn caused a slaughter of stock hogs in poor condition, tending to glut the market and reduce the price temporarily.

EXPORTS OF CATTLE.—Of domestic cattle exported to Europe during the quarter ended December 31, 1890,

From Baltimore there went to Great Britain..... 20,265
To France..... 833
To Belgium..... 425

Total..... 21,022

New York and Boston are the only two cities exporting more cattle than Baltimore—New York, 36,272; Boston, 30,351.

THE farmer who is constantly studying and planning for the good condition and comfort of all his stock is the one who will be best satisfied to keep on in his business, despite the cry of the grumbler, that dairying will not pay, and can only be carried on at a loss, and the reason that he will be satisfied is that the good returns of his provident care all the time assure him that he is going on safely. But his neighbor who has little forethought, who has no uneasiness if his animals have not proper protection from the cold, if they get only ice water for drink, if they lie in wet places and are insufficiently fed; in short, who just goes through the routine of care-taking under protest, relying on the delusive idea that he can get something out of nothing, is always ready to listen to and fall in with the croaker's discouraging refrain.

HOME DEPARTMENT.

The What To Do Club. OUR MOTTO.

Do what you can.
Not what you cannot;
Not what you think ought to be done,
Not what you would like to do,
Not what you would do if you had more time,
Not what somebody else thinks you ought to do.
But, do what you can.

It seems kind of mean to go and visit in other people's houses and then go away and find fault with their way of doing things. I wouldn't do it for the world if any body knew who I meant, but no one will ever know, and it is for the good of our order. Well, after my happy experience, of which I told you at the last meeting, and I was made to feel welcome without any fuss up to the last minute, I went to visit a near relative who was so urgent for my coming that she could hardly wait till I got there. I traveled a night and all day until nine o'clock the next evening before I got there, the last ten hours being on a road where accommodations were poor and scarce. I am happily constituted so that I could easily wait for the supper which I had no doubt would be waiting for me. Imagine the cold comfort of it when a little while after my arrival I was asked whether I had had any supper. I was forced reluctantly to confess that I had not, and pained to know the effort it cost my friend to prepare one for me at that hour. I chose tea, although coffee is almost a necessity with me, because I know it gave less trouble.

However, it is not of personal discomfort I wish to talk, only as it may be a lesson to others. I never had any real occasion to doubt my welcome, only they "did not think." This want of thinking ran throughout their entire domestic concerns. They never thought how much better it is to do one thing and be done with it. There was no special time or place for anything. The meals were always hurried upon the table after the outside members of the family came in and were impatiently waiting for them.

The dishes afterward were left to stand by the hour; sometimes the daughter, whose particular business it was to wash them, would go up stairs for something in the meanwhile, and not thinking, would overhaul her drawers, or stop to put away clean clothes of the week before; then, coming down, find all the dining room work waiting. And she was no longer young, which would be some excuse. At other times the one whose duty it was to clean up the house would think of an errand what she could do in a few minutes, and, leaving everything, would be gone an hour or two. Often the beds were not made till late in the day. Whatever engaged the attention at the time drove everything else out of mind. There was not a thing but the heavy furniture of the house that had a place of its own.

Notwithstanding these drawbacks the family was a popular one; the

house and belongings excellent; and cleanliness was almost a mania with them. Imagine then the commotion and the inconvenience when cleaning was the order of the day. I should prefer much less of it, if only order or method could be substituted.

I was made much of throughout my stay, was entertained in every way by my friends and their friends, but I was so thoroughly worried by the constant interference of one thing with another, which I was not allowed to ignore, that to get home and at my house work was restful. I meant to give an account of the visiting mania that was the law of the community, but I have taken too much space already. If my subject is not threadbare I will try it next turn.

AMANDA A.

THOSE *kid glove calls* to which Amanda A alludes with unmistakable distaste, are my *bete noir*. To her they are the most meaningless and least satisfactory of all the conventionalities. But what have we busy housewives to do with form and ceremony anyway? Picture to yourselves our feeble attempts at conformity to this one social fashion, and find in it, if you can, something to compensate for all the trouble and inconvenience it involves.

Mrs. A, for instance, is indebted to Mesdames B, C and D, for visits which have lain upon her conscience for months. She has tried her best to make opportunities and other things hit, in order to do her duty; but at one time it would be the horses, another some one had come in, which prevented, and their *kid gloves* perchance were shabby, etc.

At last, with a complete outfit—gloves, and new winter suit, bonnet and all—Mrs. A goes forth, card case in hand, to get this weighty matter off her mind.

Well, Mrs. B is at home, but she is not in company trim. Therefore Mrs. A has to wait—it seems to her half an hour, in a half warmed and dimly lighted parlor, before Mrs. B appears. How soon Mrs. B forgets the annoyance she so fully expressed up-stairs when she discovered the carriage at the door. However, a tolerably pleasant half hour passes when Mrs. A pursues her way to the C's, leaving her burthen of indebtedness upon Mrs. B's shoulders, who will in her turn worry more, or lies over it, until it is again paid. How pleased Mrs. A is to find Mrs. C "not at home;" having been kept waiting so long at the last place, she has no more than time left to accomplish the other visit. The visiting card, therefore, suffices, so that visit is also well paid.

Reaching Mrs. D's, there is a pleasant face looking out of the front window, and forthwith Mrs. D comes out, greets her friend cordially, and ushers her right into the family sitting-room, because they are too wise to keep a fire going all the time in the parlor for the sake of a chance caller, and too

kind to have their callers wait in the cold room, while with a hastily lighted fire there is a vain effort to warm it.

The bright family room, with a few flowers and a jubilant canary hanging above them, together with the easy friendliness of the hostess, give a charm to the visit which could not possibly be felt in the regulation parlor visits. Mrs. C, too, in her usual house dress, makes the visiting rig seem of so little consequence. If I had my way, I would simply send cards for ceremonial visits, and when I really wanted to visit, I would go to the D's whether there was a debt to pay or not.

DOROTHEA DOOLITTLE.

WHEN I fixed up for house-cleaning this morning (our house is to clean every morning,) I put on a pair of long stockings somewhat worn, to answer in the place of gloves; they did as well as my most sanguine wishes could have desired. Now I intend to put them on my machine, and sew them up regular mitten fashion, thumb and all, and have mittens that will not only cover my hands, but my dress sleeves to above the elbow. Mayn't these long mittens be placed in the Nothing column?

Dorothea D. wants me to tell how I make Saratoga chips. Probably she and I do not make them just alike. Likely she uses the patent fryer. I have one, but soon grew tired of using the basket, it did not drain fast enough. I wash and dry, or nearly dry, the potatoes and pare them, then slice them with the slaw-cutter. If one has no slaw-cutter a sharp knife will answer as well, but is rather more tedious. Have a skillet (I call them "spiders,") or frying pan, over the fire, two-thirds full of boiling hot lard, or beef suet. I tell when it is hot enough by putting in a drop of water; if the lard "crackles" when the drop of water is put in, it is hot enough, then put in the potatoes, not all in a "dab," but so that they will be separate in the lard; put in as many as will fall in the fat loosely; don't crowd, and let them boil until a light brown; if cooked too brown they will be the better. When sufficiently brown fish out the potatoes with a large spoon; have a colander sitting on a plate in a warm place and drop the fried potatoes in the colander. If the family is large enough to require them have more potatoes ready to drop in the hot fat, as soon as the first are taken out. The fat burns very soon if left over the fire with nothing in it; fry as many as required; always pour each lot from the colander into a warm dish before the next is taken from the frying-pan. My reason for liking the colander better than the frying basket is, the bottom of the colander is round instead of flat, and drains the potatoes better and more quickly. Sprinkle a little salt over each lot as fried. Let the lard used in frying them cool a little when the potatoes are done, and pour out in a vessel for

further use. One who has never tried this way of frying will be surprised at the small quantity of lard consumed. Of course I mean Irish potatoes.

Parsnips fried in the same way are very nice. Sometimes I make a batter like pan-cake batter, and drop the parsnips in the batter first, then singly into the hot fat. The parsnips are simply washed, scraped, sliced and then fried. Now if D. D. knows a better way, she will please report.

A few months ago I saw something that particularly took my eye, in the way to attach the button-hole belt to a boy's trowsers. The belt was put on the wrong side of the pants, of course, and then sewed through to the right side in scollops, or points. The upper edge of the belt was loose, of course, and the waved lines below the button-holes took off all strain on the serving. I thought at the time, I'll certainly send that to the club.

Now, Ceres, I'm afraid I'll be too deep in *dress-making* to say anything in the next club meeting.

TRY AGAIN.

OH, no! sister Lunn, I did not for a moment confound you with Mr. Cake, farther than to suspect you of being his *better half*. What you say about writing instead of talking is very true, and there is another view of it beside the one you take. When we put ourselves down in writing we are much more apt to live up to any sentiment or principle to which we stand committed.

Talking of table arrangements, manners, etc., I want to give my opinion about the serving, etc. I have found in my experience, which no doubt extends as far as that of most of you, that it is more economical in every way to live always as if there were guests at your table; or to put it another way, to make very little, if any, difference for company, unless it may be some special occasions.

This may sound flighty to those who live carelessly and more plainly than their circumstances require (which many people do), and then take extraordinary pains if anyone happens in.

It needs only that we live as well as we can easily afford to, in order that we may, without embarrassment, invite others to share the meal when there is occasion to do so. We certainly ought to be able to respect ourselves and those of our own household as much as we do other people, and doing so, we must have the same regard for our manner of living when alone as when others are present. Keep this always in mind, and there will be much less concern about appearances so far as regards other people.

The table need only be neat and clean and the food *well prepared*, in order to make it appetizing for hungry people, no matter how simple it is, and these conditions are in the power

of all respectable people under ordinary circumstances.

In regard to waiting, I agree with Ceres, there is nothing unbecoming in some younger member of the family performing such duties, provided it is done in the right spirit and with painstaking care. To me, it is extremely annoying, as well as a continual restraint upon convenience to have a waitress standing about, and they are not always tidy about their person, so that when reaching over one is sensible of the fact.

HELEN BLAZERS.

REST never seemed sweeter, as "far from the madding crowd," I wandered far through the pine grove, breathing the perfumed air, listening to the sad, sweet music, and gathering the pine cones that I might hold high carnival with them in my room at night, the grotesque shapes as they burned brightly, rivaling even King Roi and all his grand pageant. It was Carnival week in Augusta; fully fifty thousand gathered from far and near—a joyous, riotously happy crowd in pursuit of pleasure. A warm welcome awaited them, everything done for comfort, fun and frolic. I was often with them in imagination, and their laughter was contagious when they saw the realization of a notice that "Professor Gander would leap from the bell-tower, a distance of 110 feet," said Professor proving to be a real, live gander, who gave ample proof of his skill, as he flew to the ground. Laughing is healthy, but not so the sausages, which with rolls were dispensed at the street corners and eagerly devoured by the hungry crowd. No doubt they were appetizing, far more so than the filthy pens from which the animals that made these "rare bits" had so recently been taken.

No thought was given by the eager pleasure-pursuing crowds as to the antecedents or consequences of their various feasts. I did not witness any of the displays imagination pictured of the Goddess Pleasure, in her chariot, with the vast crowds in pursuit, all sorts and conditions of men, some so eager, the chariot wheels were passing over their prostrate forms. I felt it was good to be here on these lovely hills of sand, finding my pleasure near to nature, whose sweet, soothing influence brought no rude after-effects.

Nature is lovely; she is always reliable; she has no freaks of temper, nor of wild imagination; she works after a divine plan and a beautiful pattern. Her processes are grand, as they are precise, and vital as they are magnificent. There is so much through her to love, admire and enjoy, yet how thoughtful, laborious, watchful and tireless is the search of many after that which is unreal—having neither eyes nor ears for the sweet, glad sights and sounds she prepares for them. To the unregenerate, animalized and disobedient, her face is veiled. To whom, however, she shows her countenance,

it shines with peerless beauty, for it reflects the brightness of the Master. Over the whole earth there is a struggle between animalism and spirituality. Made up of body and spirit, as all humans are, yet often bodily desires, tastes, wants, appetites, longings and passions sway, guide and lead the person; spiritual life is dethroned; the animal life enthroned attaches his affections, entwines his interest in the things which "moth and rust doth not corrupt." Turning to the spiritual, it enthrones and forever clothes him as with a robe of heavenly beauty, develops right-mindedness, large heartedness, generous service, tender sympathy and a readiness to show kindness and help to everyone needing it. It quickens patience, increases hope, insures self denial, stimulates courage, creates unquestioned trust in the Dear Master, and gives in life a foretaste of the world to come.

There is many a year in the path of life,
Which we pass in our idle pleasure.
That is richer far, than the jeweled crown,
Or the miser's hoarded treasure.

A STRANGER.

Sands Hills, Augusta, Ga.

Hours of Ease.

The Use and Abuse of Newspapers.

In these days of bountiful supply and universal reading of newspapers, it is quite important that we who are heads of families should take some pains to inform ourselves as to the character and fitness of the papers which have the sanction of our endorsement when we become subscribers to them, or even when we permit them to lie about for family reading.

The educational effect of newspapers is far beyond our appreciation, indeed, almost beyond our powers of conception, and according to our selection is that education good or evil. It is a constant dropping upon the mind of that which forms the intellectual and moral character. Not only does the substance of that which we read so heedlessly find lodgment, but our tastes and appetites for reading are affected thereby.

It is questionable, therefore, whether it is wise to provide too liberally for such reading in a family where the minds and characters of the majority are yet immature. Even the best newspapers cater to the general requirements and consequently contain, more or less, that is not calculated to benefit any one, but merely to inform the public, and those who do not care for particular items may and do pass them by. Such, however, is not apt to be the course of our young people when they take up the family newspaper. For this reason we should permit none but the cleanest of them to find their way into our homes.

Good papers are of incalculable benefit to us all. Like the constant companionship of well-informed people, we continually gain from them something worth remembering as well

as something to enlarge our own scope of observation. It is the elements of future history which we gather thus from day to day. It also depends very much upon the use we make of such papers as are provided for home purposes, whether or not the best results are obtained from them. If the older or most capable members of the family would only make a practice of drawing attention to, and discussing with others, such pieces of information as are found worthy of notice, it would ultimately have the effect of inducing the rest to look for such matter; whereas, if each one takes what suits him or her without farther thought or comment, one will take the politics, another the stories or anecdotes, others the scandals, etc., and each will only grow in the direction of their individual proclivities. How much better that they should have a mutual interest in the best that the newspaper gives us, then if the rest does get a reading it is likely to be merely a skimming that leaves little or no impression. Papers that deal chiefly with our everyday interests should have the first place, but it is not wise to confine ourselves to such, or we become narrow minded, and will have no intelligence in common with people whose interests run in other directions. People who do not gather knowledge of current events as they are given us by the daily papers, find themselves painfully outside of the conversation of well informed people when they go away from their own narrow circle, and there is nothing more embarrassing than to be thus placed. Our families likewise feel this; not always realizing why it is. Everything of importance throughout the world finds its way to the newspapers. Therefore, if we would keep abreast of the times we must read them, and we must not only provide our families as well as ourselves with a *good selection* of newspapers and magazines, but we must also talk them over with, or in the presence of, the family, drawing attention to that which is best worth reading in them.

CERES.

Missionary Work.

Before steamships had taken the place of sailing ships in carrying passengers to different ports of the world, I had occasion to see a lady friend start in a large ship bound for the Sandwich Islands as a missionary. It impressed me as a solemn occasion with the possibilities of storms, cyclones and water spouts to wreck the ship; but, in looking over the vast number of ropes that crossed and recrossed each other, the big masts that held up the sails, and the heavy chains that hold the ship to the anchor, with the strong bolts that bound the hull together, I thought they were pretty well fixed. Amid the noise and confusion of taking aboard the luggage and some stores that had been forgotten, the weather-beaten sailors were

jolly, and bid good-by to their sweethearts with a loud smack as though it was an every day occurrence.

I noticed a colporteur with a large carpet bag of tracts that he was distributing to the sailors. I asked one of them if he did not find a good deal of comfort and consolation in reading them in a storm. He said, "no, mum, we don't use them in a storm, they come in mostly in a calm, when we rig up and shave, they are handy to wipe our razors on." I then asked the colporteur if he knew what use his tracts were put. He said he did not trouble himself about that; his business was to distribute them, for there were tons and tons of them in the Bible house, and room was wanted for new ones that were all the time coming in. Having my curiosity excited in seeking information, I asked the mate what the cargo consisted of. He said the lower hold was stowed mostly with whiskey and rum; between decks were the ship's stores, knock-down barrels for whalers, and a general assortment of merchandize, including play cards and dice. With that information I joined the little group of missionaries in the cabin, and the preacher who had come to say a few gospel words of comfort and sing a hymn or two, and thought what a great work was before them, to overcome the effects of the cargo of fire-water after the heathen had been educated to drink it. I then concluded not to go as a foreign missionary, but to try home missions first. Lately I had a conversation with an apparently intelligent farmer and asked him if he did not think the Home Department of THE AMERICAN FARMER was doing a good work. He replied that he did get a good deal of information and instruction from the farming part, but did not bother with the woman's part of it. I then spoke right out very distinctly and with some little feeling, and said if he only knew the amount of thought the women were thinking to make home the happiest place on earth and the centre from which all good springs, he could afford to take time to read and digest what they say, for it would pay him better than big crops, and the money he got for them; and when a husband is found that does not consult his wife on things pertaining to their happiness he is only half a man, the poorest half, merely the animal part. But thinking of the colporteur, we have got the work to do and the material to do it with, and are going to do our part, and lead them to the water, and if he cannot make them drink he might duck their heads in. SALLY LUNN.

Hints and Helps.

Nothings.

POTATO OLIVES.—Cold, disagreeable potatoes; cut in shape of olives, roll in crumbs, chopped meat, spice,

hard-boiled egg, or batter of water and bread crumbs, with dish of grated cheese; fry.

FRUIT BASKET.—Suppose you have two oranges; cut in halves, cut pulp up in the halves, add handles of wire covered with any fringed paper, and tie with paper or ribbon. PRESS.

ORANGE PEEL.—Stew orange peel, fresh or dried, for fruit cake.

STALE BREAD.—Slice thin, cut in triangles, diamonds, rings, or in heart shape; dry in oven. Keep in jar, and heat when serving with dessert.

BURNED SUGAR.—When you have scorched sugar, reheat gently, boil with water for a time and save for caramel to flavor with, for soup, etc.

MEAT RINDS.—Collect meat rinds, try out in oven, watching closely; pour off fat in different cans or bottles, according to fitness for cooking or mechanical purposes. Put residue of rind in soap barrel.

FLAVORING.—Dry all orange peel; dry all lemon peel; dry all celery leaves.

MRS. M. WOOD.

BEEF STEAK FINGERS.—Cold beef, tender, cut in strips, roll in bread and any seasoning; fry.

MOULDED MEATS.—Bits of cold ham and other meat, fill any mold, after sprinkling with hard-boiled egg, with the bits seasoned with lemon, etc.; pour in clear, liquid, meat jelly, saved from gravies before made.—*Home Journal*.

SANDWICHES.—Bread spread with meat paste, covered, and cut in squares, large enough only for a mouthful; decorate with hard-boiled egg, parsley, pickle, etc.; or, have stale bread, and fry the sandwiches.

PARSLEY.—Grow parsley in the house, water profusely all winter.

KINDLINGS.—Dry, coarse weeds make fine kindlings.

S. D.

Tired.

I am so tired!
The way is so dreary,
So dark and shadowed by gloom
That now, faint, toil-worn and weary,
I fain would rest in the tomb.

I am so tired!
I am weary of sorrow,
Of grief, of pain and of care;
So tired! that I would gladly to-morrow
The rest of the glorified share.

I am so tired!
But duty is pressing,
Much work remains to be done
Before I can hope for God's blessing
Or hear from Him a "well done."

I am so tired!
But God, in His kindness,
Will strengthen for all He may send.
'Tis needed, though now in my blindness
I see not, but shall in the end.

I am so tired!
But soon shall be lying
At peace, with nothing to fear.
The rest for which I am sighing
I shall greet with a smile, not a tear.

—*The Living Church*.

For Mothers.

It may well be the aim of mothers and fathers to see that their children have a large vocabulary to choose from. It should not satisfy them to have their children simply refrain from using improper language, but they should be helped to see that there is large opportunity for choice in the use of proper words. We are, of course, all in the dark as to the future of our children, but a firm faith that no wise council or valuable instruction is ever lost will be of help, and will serve to encourage us often; so, though your son or mine may not need great range of language to express his thoughts, still it can do no harm for him to be well provided with good words. I once knew a mother who though affectionate and thoughtful, lacked some of the fine attributes which make up the ideal mother's character. She said she did not think she should get the children new spring hats. There was a great deal of sickness about, and perhaps they would not need them. Precisely this attitude is taken by many parents in regard to the intellectual needs of their children. Logically followed out in the one case, it leads directly to absurdity, and in the other it simply takes a roundabout way there.

MOTHERS who find it so difficult to keep the underclothing and stockings of their small children clean in winter will appreciate my plan. The carpet of the general sitting-room is simply laid down in sections, or, better still, have an English art square and two heavy rugs. Before the room is swept, remove the carpet, shake and beat all the dirt and coal dust well out, then replace the carpet again. Twice a month have the base-boards wiped off with a damp cloth and the floor thoroughly washed with soap and water. A fire in the stove or grate will soon dry the room; then put the carpet down as before, and you have a floor that the little ones can romp on without soiling their clothes or being suffocated with dust.—*Detroit Free Press*.

To put into cold sheets feet that should be warm and rosy, but that are numb and blue, is enough to make all the little toes this side of the tropics curl. If bedrooms are warmed, there will be no chill in the mattresses and blankets, but if they are cold, we should like to urge all mothers, older sisters, aunties and nurses to use either a soapstone, which is easiest, or a warmed crib blanket, for the feet of their little charges. There will be fewer coughs, and catarrhal colds, digestion will improve and "awful dreams" become less frequent, and there will be no tedious hours of chilly wakefulness.

If your little girl wants to do miniature cooking on her own account, let her do it. Most girls, almost from babyhood, if permitted to be with their mothers in the kitchen, love to see the work done, particularly the cooking;

and nothing delights them more than to be allowed to attempt to make some simple article themselves. This early play will not be forgotten. Girls that grow up under such training or indulgence will have no fear of the real care when it comes to them as a duty.

ISN'T it true that much of the governing and subduing power of a true mother lies in the fact that she appreciates the necessity of cultivating her eyes both to see and not to see, and that she knows how to accomplish this feat?

CHILDREN'S bibs are made of the oblong momie cloth towels with borders. These are cut out to fit the neck, and the front may be ornamented with some of the many prevailing scenes out of child life, in outline stitch.

GINGER drops, which children can be allowed to make for themselves, afford more pleasure than the occasion seems to warrant. Take half a pound of sugar, sift a tablespoonful, or more if you wish a strong flavor, of ginger, add a little water; let this come to a boil, then drop on paper, and let them stand in a cool oven till they are dry. Only enough water should be added to moisten the sugar.

Our Boys and Girls.

Astronomy—III.

In January the planet Jupiter was east of the Sun, and therefore shining as evening star. You watched him from evening to evening, setting earlier and earlier in the west, until being merged into the Sun's rays, you saw him no more. On the 13th of this month, he and the Sun were in superior conjunction; or, in other words, both of these bodies had the same right ascension in the heavens. On the equinoxial, from the 13th, as the days pass, his right ascension will become less and less than that of the Sun, and being west of the Sun will be a morning star. Look out for him early in the morning about two hours after the rising of Venus, say about five o'clock. He is in the constellation Aquarius, of the zodiac girdle, and will remain there through the year. The zodiac is a belt of constellations, stretching sixteen degrees in width, entirely round the great concave of the sky above and under our earth. In the middle of this belt is the real path of the earth, and the apparent path of the Sun. These constellations are twelve in number, though we cannot see but half their number at any one time, however cloudless the sky and clear the air may be; for as we said, one half of them are always shining in that part of the sky which is under the earth. But as the earth rotates on its axis, we get alternately a view of all of them. These constellations are twelve in number, beginning at the vernal equinox and going from left to right, as you look towards the polar star, until they reach around the

heavens. Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricornus, Aquarius and Pisces, are their names. The paths of all the planets of the solar system as well as that of the earth, lie in this belt or girdle as they go whirling around the great luminary of day. Mercury, the nearest planet to the Sun, makes its journey through the belt in about 88 days and Neptune, the most distant planet, goes through it in 164 years. The constellation Taurus, or the Bull, is now

west of the meridian in the evening, having passed this line on the 1st January, about nine o'clock. You can easily locate it in the sky by finding the Pleiades or seven stars which are in the neck of the Bull. The brightest star of these seven is Alcyone, though only of the third magnitude. Instead of seven stars a good telescope will reveal about two hundred in this little group. Very near to the Pleiades is another group, called the Hyades in the Bull's face. Its five stars form the letter V, and its brightest star, Aldebaran, of the first magnitude is in the eye of the Bull. Taurus goes down with the Sun about the last of May. Below and southeast of Taurus, and just west of the Milky Way, you will see Orion, one of the most beautiful constellations in the Heavens; but, remember, it is not one of the twelve of the Zodiacs. Notice four bright stars forming a long square, and inside of this a small regular square with stars forming a handle from one corner of it. But we cannot linger now with the constellations. In some future number we will describe all the most prominent of them. And now again let us talk about Jupiter. He is the fifth planet from the Sun in the planetary system, and is more than 1400 times larger than the earth, and the Sun is 1000 times larger than Jupiter, and there are thousands of stars we see twinkling in the sky, which are thousands of times larger than the Sun even. This will give you some idea of how small a world our's is in the great system of God's immensities. Jupiter's distance from the Sun is 480 millions of miles, and he makes his circuit or year around that luminary in about twelve of our years, going in his elliptical orbit at the speed of eight miles in a second of time. Viewed with a telescope, he appears not as a star, but as a beautiful orb, crossed by light and dark bands and accompanied by four satellites or moons, named Io, Europa, Gauymede and Callisto. These moons revolve around their planet or central body in period of from one and three-quarters to sixteen and three-quarters of our days.

The eye of Galileo was the first to behold these beautiful objects with the telescope he had invented.

The physical conditions of Jupiter are very unlike those of our earth, and very different from those of Mars

and Venus; consequently, his surface could not be inhabited at least by beings like ourselves. He rotates on his axis in ten hours, making his days and nights about five hours each in length.

EXPLANATIONS.—The meridian is a line passing through any place, due north and south, one end of which points to the north pole and the other to the south pole. When the Sun is exactly on this line, it is solar noon.

Galileo was a great Italian astronomer, born 1564, and was the inventor of the telescope.

THE ORDER OF THE KING'S DAUGHTERS.—In the order of the King's Daughters every woman has her call. She is bound to give herself, to open her own eyes, to use her own powers, and to ask, not "Lord, what are some of the things Thou wouldst have done by our society," but "Lord what will Thou have me to do?" The condition is that members shall find their own fields of labor.

Brief News Summary.

FOREIGN.—On account of an adverse vote in the Italian chamber of deputies on a revenue measure, Premier Crispi tendered his resignation, and a new ministry has been formed.—Three regiments of infantry, part of the garrison of Oporto, revolted and proclaimed the Portuguese republic. The mutiny was quelled by loyal troops after a sharp fight.—Further successes of the Chilean rebels are reported. It is said President Balmaceda is willing to negotiate for peace.—Meissonier, the famous French painter, is dead.—The Caroline islanders attacked the Spanish garrison, killing ninety soldiers and civilians.—The Canadian Parliament has been dissolved and writs issued for an election to choose a new House of Commons. The government is about to begin the negotiation of a commercial treaty with the United States, which, if concluded, must be ratified by the Parliament of Canada, and the ministers, therefore, desire a House fresh from the people. As soon as the result of the elections is known a Canadian delegation will leave for Washington.

CONGRESSIONAL.—The United States Senate passed the army appropriation bill and 110 pension bills, among them bills giving pensions of \$50 a month to the widows of Generals Buell, Starkweather, Pelouze, Duryee and Noyes; also the House bill granting a pension of \$100 a month to Gen. Franz Sigel.—The fortification bill was passed with various amendments.—In the House, Mr. McAdoo of New Jersey, made a speech against partial reciprocity with Canada, and favoring annexation.—The diplomatic appropriation bill was passed.—In the House, the military academy appropriation bill was passed.—A change was made in the law for the appointment of a temporary successor to a deceased secretary of the treasury, allowing 30 days instead of 10 for filling the vacancy.—The House passed the land forfeiture amendment, received the post-office appropriation bill, and discussed the sundry civil bill.—The Raum investigating committee submitted a report exonerating Gen. Raum. The eight-hour bill was recommitted in the Senate.

GENERAL.—The President issued a proclamation declaring the reciprocity treaty with the United States of Brazil.—Admiral Porter died at his home in Washington after several years ill health.—General Wm. T. Sherman died in New York on Saturday, from an attack of bronchitis. He will be buried in St. Louis with military honors.—Hon. A. H. H. Stewart, formerly Secretary of the Interior, died at Staunton, Va.—In the case of the libeled sealer, Sayward, the United States supreme court grants the British government's petition for leave to file an application for a writ of prohibition.—The funeral of Hon. Wm. Windom, Secretary of the Treasury, who died suddenly in New York, took place in Washington.—The new cruiser Newark was accepted by the Secretary of the Navy.—Lieutenant Schwatka had a serious fall down stairs in a

hotel at Mason City, Iowa.—The death of a republican member of the Montana house leaves that body a tie politically.

MARYLAND.—Dr. William T. Revell, of Anne Arundel county, is dead.—Jacob Hagerhouse, of Hagerstown, aged seventy-five, died Sunday.—The Hagerstown glass works were burned; loss \$30,000.—A habeas corpus case to test the right to bring oysters under legal size into Maryland will be tried in Anne Arundel Court.—Annapolis oyster men who went to North Carolina were not permitted to take oysters there.—The \$5,000,000 5 per cent. Baltimore Belt Railroad bonds, offered in Baltimore, New York, Philadelphia, Boston and London, were fully subscribed for at 101½ and accrued interest. The Baltimore subscriptions were for more than one-fourth of the whole amount.—Mr. Peter Muller, of New York, was elected president of the Baltimore Sugar Refinery, to succeed Mr. W. W. Spence.—115,000 dozen pairs of stockings were shipped to New York from the Colored House of Reformation.—George M. Smith, a merchant of Centreville, and many years ago an active politician in Baltimore, died.—Daniel F. Shure, for forty-five years superintendent of the Susquehanna and Tidewater Canal, died in Harford.

VIRGINIA.—English capitalists are said to have made large purchases of land around Norfolk, Va., with a view to locating shipbuilding yards there.—Mr. William G. Russell, an old resident of Winchester, is dead.—There is talk of a United States expedition to investigate the decrease of the oyster supply in Maryland and Virginia.—Governor McKinney, of Virginia, proposes a survey of the oyster grounds of the state as the first step to a consideration of the oyster problem.—The United States Agricultural College fund has been divided between the white and colored institutions of Virginia, two-thirds to the former and one-third to the latter.

Baltimore Markets—February 16.

BREADSTUFFS.

Flour. —Firm and quiet. We quote:	
City Mills Super.....	\$2 50@3 10
City Mills (Rio brands) Extra.....	5 15@5 37
Baltimore High Grade Family.....	6@5 75
Western Winter Wheat Super.....	3 10@3 50
" " " Extra.....	3 7@3 50
" " " Family.....	4 0@5 00
Rye Flour.....	3 0@4 25
Hominy.....	3 5@3 65
Corn Grits.....	3 5@3 65
Corn Meal, per 100 lbs.....	1 25@1 50
Buckwheat Meal, per 100 lbs.....	2 40@2 50

Wheat.—Southern firm and active. Southern Fults selling at 103@108 cts., longherry at 104@109 cts. Western quiet, with quotations of No. 2 red spot 103 cts., May delivery 105 cts.

Corn.—Southern firm but quiet, with sales of white at 60@62 cts., yellow at 61@62 cts. Western firm, with mixed spot selling at 61@62 cts., May 58@59 cts.

Oats.—Steady but quiet. Ungraded Southern and Pennsylvania 50@52 cts., Western white 51@52 cts., do. mixed 50@51 cts., stained and inferior 49@49 cts., No. 2 white 51@52 cts.

Rye.—Strong. The quotations were: choice 91@92 cents, good to prime 85@88 cents, and common to fair 80@82 cents per bushel.

Hay.—In good request for choice. Choice, \$10.50@11.00; good to prime, \$9.50@10.00; mixed, \$8.50@7.00; Clover, \$8.50@7.50; Cut Hay, choice grades, city standard brands, \$12.00; New York cut \$11.00@11.30; mixed grades, cut, \$10@11.00; at scales, Timothy Hay, \$8@11; Clover Hay, \$7@10 per ton. Straw, Wheat, Rye, \$11@13; Oat, \$9 per ton. Bar Corn \$3.20@3.35 per barrel.

Straw.—Dull. Rye in carloads at \$15@15.50 for large bales in sheaves, \$10.50@11.50 for blocks; Wheat, blocks, \$7.00@8.00; Oat, blocks, \$9.00@10.00; chaffy stock, \$1 per ton less.

Mill Feed.—We quote Western brand light, 12@13 lbs, \$23.50@24, do, medium, 14@16 lbs, \$22.50@23; heavy, over 16 lbs., \$21@22, an@ middlings, \$22, all on truck; City Mills Middlings, \$23 per ton sacked and delivered.

Provisions.—Quiet at quotations: Sugarpickled Shoulders 5½ cents; smoked sugar-cured Shoulders 6½ cts.; sugar-cured Breasts 7 cents. Canavased and uncanavased Hams, small averages, 10@11½ cts.; large averages 9½@10 cts. per lb. Mess Pork, old, \$10.50, and do. new \$10.75 per lb. Lard, refined, pure, 7½ cts. per lb.

Tobacco.—*Maryland.*—Receipts still small and sales unimportant. Quotations were for: Maryland—Common and frosted, per 100 lbs. 1@ \$1.50; sound, common, 2@3; good, common, 4@5; middling, 6@8; good to fine red, 9@11; fancy, 12@13; upper country, 3@4½; ground leaves, 1@2.

Seeds.—Coverseed nominally firm but quiet. Choice to fancy new Western Clover 8@8½ cts., prime 7½@7¾ cts. per carload. Timothy \$1.32@1.40 for prime in carload lots; Western, near-by, \$1.10@1.35; Flax, sieved, \$1.35@1.45 per bushel, as to quality; Orchard Grass \$1.20@1.30 per bushel.

Wool.—Flat. We quote good unwashed 23@25 cents, tub-washed 22@23 cents, pulled 20@22 cents and Merino 18@20 cents per pound.

LIVE STOCK.

Beef Cattle.—Fairly active and strong. We quote as follows: Best Beeves \$4.75@5.00, those generally rated first quality \$4.50@4.75, medium or good fair quality \$4.00@4.25, and ordinary thin Steers, Oxen and Cows \$2.00@2.50 per 100 lbs.

Sheep and Lambs.—Fairly active. We quote Butchers' Sheep at 3½@4½ cents per lb. gross for good to firm, 5@5½ cents good to extra. Lambs 4½@5 cents per lb. gross.

LIVE STOCK.—

FARMERS and farmers' sons who have a horse and rig at their disposal, and who are looking for profitable employment, may secure positions worth from thirty to sixty dollars a week by addressing A. J. POTTER, 3 East 14th Street, New York City.

Mt. Dillon for Sale.

233 Acres, about 4 Miles from Baltimore City Limits, on the Old Frederick Road.

One-third in chestnut, oak, poplar and locust timber; one-third in rich meadow land, with running streams through it; balance high and rolling with handsome building sites sloping to south and east. This property was the home of Daniel Carroll, one of the Commissioners from Maryland to sign the Constitution of the United States. The dwelling, an old English style cottage, was built by him over a century ago, 40x45 feet front, of white oak and heart pine, lined with brick, and as sound as when built. Large barn and all necessary outbuildings. Twenty varieties of shade trees surround the house and lawn, sloping to the east and south. Mt. Dillon is bounded on the east and west by property belonging to steamship company presidents, who are now making extensive improvements; on the north by a cattle king, who has stables for feeding 300 head of stock; on the south by scientific fruit growers. The soil is the best for timothy hay and blue grass pasture. The property will be shown by the owner on the premises.

NOTICE TO REAL ESTATE BROKERS. This property may be sold for less than \$100,000, in which case commission will be light.

For further particulars, address

S. K. CROSBY,

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Good Fertilizers

Suited for the crops and soils they are to be used on, made specially, without extra charge.

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Agricultural Chemicals

Such as Nitrate Soda, Muriate Potash Sulphate Ammonia, Kanit, and Dissolved Bone—for home mixtures—sold at wholesale prices to members of the

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POWELL'S RED BAG FERTILIZER—*for Cotton, Corn, and Peanuts,* **POWELL'S TRUCK GUANO**—*for Truck, and*

POWELL'S POTATO FERTILIZER—*are excellent, cheap and reliable.*

#2—A pamphlet telling how Fertilizers are made, and how to use them for profit, mailed free on application.

AGENTS WANTED for unoccupied territory.

W. S. POWELL & CO. Fertilizer Manufacturers, Baltimore, Md.

True Danvers Onion Seed.

My seed farms extend into Danvers, and I frequently buy the best onion raisers there hundreds of bushels of their handsomest onions to plant to grow seed from, sometimes paying as high as five dollars a barrel. I offer such seed, all this year's growth and of my own raising, at \$3 a pound, with a discount on large quantities. Much of the onion seed sold is either too flat or too round for true Danvers. Choice Danvers carrot seed, \$1.00 per pound. Seed catalogue sent **FREE** to every one. JAMES J. H. GREGORY & SON, Marblehead, Mass.



NUT TREES. Chestnuts—
Chestnut and Giant, Parry's; Japan
Walnut; Japan Golden Russet, Idaho and Kieffer Pears;
Elegans, Longipes, Hardy
Oranges, and other valuable novelties. Small Fruits, Grapes, &c.
Shrubs and Small Trees, &c.
Illustrated Descriptive Catalogue Free.
W.M. PARRY, Parry, New Jersey.

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DEPTH QUICKLY ADJUSTED BY ONLY LOOSENING ONE NUT



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FLOWER SEEDS,

Besides all the desirable novelties of last season, and nearly everything else in my line of business.

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Brown Leghorns
B. B. B. Game Bantams.

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working for us. Persons preferred
can furnish a horse and give their whole
time. Business opportunities may be profitably
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PHOSPHATES**
For GARDENS

Which are clean and inodorous. Put up in suitable quantities for small and large gardens. No trouble to use. Not expensive. For sale by general stores, druggists and seedsmen. An interesting circular telling how to make a good garden sent free. W. S. POWELL & CO. Chemical Fertilizer Mfrs., Baltimore, Md.

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I have for Spring of 1891, an especially fine lot of FRUIT TREES, especially APPLES—Southern Winter Apples for Southern Planters; GRAPE VINES, Small Fruits, also a large collection of the best EVERGREEN TREES—Dwarf Arbor-Vite and Irish Juniper, Plants for Hedges & Screens. SHADE TREES for Street or Lawn. Roses and Greenhouse Plants, etc.

Write for what you want direct to the grower. I have given many years especial attention to this business, and will use my best endeavors to serve you well.

GEO. BALDERSTON, Colora, Md.

The New Tomato!

From Canada ought to be extra early, and as such it is sent out. The reports of the experimental stations speaks highly of it, and numbers testify to its earliness, productiveness, large size, roundness, rich color and freedom from rot. Per package, 15 cents; five for 60 cents. You will find it only in my seed catalogue, which will be sent FREE to anybody. J. J. H. GREGORY & SON, Marblehead, Mass.

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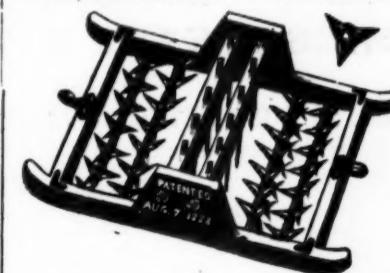
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60,000 BUSHELS SEED POTATOES CHEAP.

My WHITE BONANZA OATS took the American Agriculturalist's prize—\$500 in Gold—for biggest yielding Oats in America; cropping 184 bu. per acre.

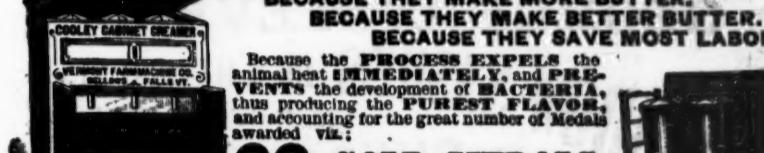
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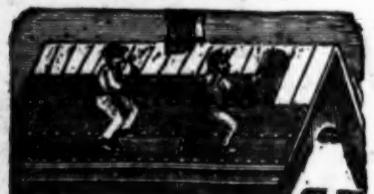
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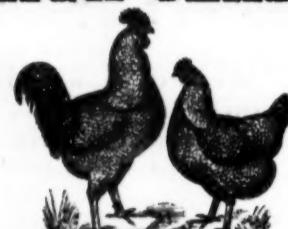
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